



AFTER RECORDING MAIL TO:

Name Brian Balch
Address 601 S. DIVISION STREET
City/State SPOKANE WA 99202-1335

AUDITOR'S NOTE
Legibility in a portion of this
instrument unsatisfactory for imaging
upon recording.

COURTESY RECORDING

Document Title(s): (or transactions contained therein)

- 1.
- 2. DRAINAGE MAINTENANCE AGREEMENT

Reference Number(s) of Documents assigned or released:

Additional numbers on page of document

Grantor(s): (Last name first, then first name and initials)

- 1. Spokane County
- 2.
- 3.
- 4. Additional names on page of document

Grantee(s): (Last name first, then first name and initials)

- 1. Butler Properties
- 2.
- 3.
- 4. Additional names on page of document

Abbreviated Legal Description as follows: (i.e. lot/block/plat or section/township/range/quarter/quarter)

ptn tract 135 plat 2 PASADENA PARK
Complete legal description is on page of document

Assessor's Property Tax Parcel/Account Number(s):

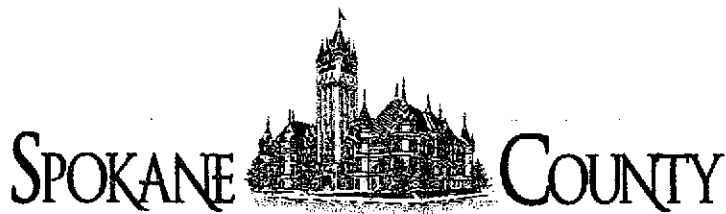
45062.0968

NOTE: The auditor/recorder will rely on the information on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

I AM REQUESTING AN EMERGENCY NONSTANDARD RECORDING FOR A ADDITIONAL FEE AS PROVIDED IN RCW 36.18.010. I UNDERSTAND THAT THE RECORDING PROCESSING REQUIREMENTS MAY COVER UP OR OTHERWISE OBSCURE SOME PART OF THE TEXT OF THE ORIGINAL DOCUMENT

Jody Benck

RECORDPA



DIVISION OF ENGINEERING AND ROADS
A DIVISION OF THE PUBLIC WORKS DEPARTMENT

September 20, 2006

Jonathan Galow, P.E.
Thomas, Dean and Hoskins, Inc.
303 East 2nd Avenue
Spokane, WA. 99202

Subject: **SP1359 – Centennial Lane
Submittal No. 2 – Review Comments**

Mr. Galow:

We have reviewed your September 18, 2006 submittal of the road and drainage design documents for the above noted project. The following items need to be addressed or resolved prior to acceptance of the plans:

PLANS

1. A design deviation has been submitted for the spacing requirement on a minor arterial at the Centennial Lane/Upriver Drive intersection. This is being processed and will need to be approved prior to acceptance of the plans.

DRAINAGE REPORT

2. Finish grade contours need to be provided for the swale details. Using the 3:1 slope from the edge of the gravel shoulder, I get a significantly smaller size of swale than the drainage calculations show.
3. If check dams are used to create roadside swales for treatment volume, then the location of the driveways will need to be determined so that accurate volume calculations can be made. For volume of sloping roadside swales, the volume is calculated as a cone or pyramid.
4. In the post-developed calculations for the remainder of the site (Sheet A4 of the calculations) used to compare runoff in the pre-developed condition, existing road and roof area used in the pre-developed calculations were not included.
5. Provide a detailed floodplain analysis which shows the base flood elevations along the west and south boundaries. This information provides the basis for the floodplain boundaries that will be shown on the final plat. Refer to memo from Marianne Barrentine to Greg Baldwin, dated January 12, 2005. (A copy is included.)

GENERAL

• 1026 WEST BROADWAY AVENUE • SPOKANE, WA 99260-0170
PHONE: (509) 477-3600 • FAX: (509) 477-7655 • TDD: 509-477-7133

6. Provide an inspection agreement.
7. On the lot plans, show the top of bank (2:1 slope) and floodplain within the lot.
8. Provide a letter of approval of the roads from the fire district.
9. Provide a draft copy of the homeowner's association and the UBI number.

If you should have any further questions or comments, please feel free to contact me at anytime at 477-3600.

Sincerely,

Matt Zarecor, P.E.
Development Services Engineer/Manager



Tim Schwab, P.E.
Plan Review Engineer

cc: Mike Butler / Developer,
Project File

Unofficial Document

Project No. SP 1359-04
September 14, 2006

CENTENNIAL LANE DRAINAGE MAINTENANCE PROCEDURES

Bi-annual inspections should be conducted on all drainage facilities as a minimum, with optimum times being early spring and late fall. Inspections should also be conducted after a heavy rainstorm, paying close attention to erosion in the swales and silt buildup I culverts and drywells.

Additional items of interest pertaining to the individual components are as follows:

A. DRYWELLS

1. Inspect amount of siltation and debris collection in the bottom of the drywells. Clean drywells annually to prevent the accumulation of silt that could limit the capacity of the drywells.

B. STORM DRAIN CULVERTS

1. Inspect culverts for interior siltation, structural integrity, settlement, or voids around their entrance or outlet.
2. If culvert silts up repeatedly, check for cause, and consult Engineer if remedy is not apparent.

C. DRAINAGE SWALES (ditch adjacent to Centennial Lane)

1. Proper growth of dryland grass within the swales is essential. Brown or barren areas should be reworked and re-seeded to maintain proper coverage.
2. Water should not pond in any swale for an extended period of time. Cattail or reed grass growth is an indication that infiltration has been reduced, and the swale bottom should be reworked and restored.
3. Any erosion observed in the swale/ditch or check dams should be repaired immediately.
4. Drainage swale / ditch along Centennial Lane should be mowed as necessary by the homeowners to keep grass from getting tall enough to inhibit flow. Periodic maintenance and mowing fall within the responsibilities of the homeowners. During mowing, the maintenance person should also be watchful for evidenced erosion, siltation, or prolonged soggy and poorly draining swale bottoms.

Centennial Lane Short Plat SP-1359-04

Annual Maintenance Costs for Stormwater Facilities

1. Inspect 4 drywells twice each year and clean with vacuum truck once each year. Annual operation and maintenance costs, O & M.	
• Vacuum truck 1 hr each @ \$145/hr	\$580/yr
• Disposal fee \$10 per drywell	\$40/yr
2. Clean debris from driveway culverts once each year using vacuum truck. Assume half an hour for each culvert. Assume two driveways per duplex lot.	\$1,305/yr
3. Ditches and swales will be mowed by homeowners, assume no cost.	\$0/year
Total Annual Stormwater Structure Maintenance Costs	\$1,925

Present Value of Stormwater Structures

1. Double barrel drywells total of 4 @ \$2,800	\$11,200
2. Driveway culverts assume total of 18, 25-ft long @ \$30/lf (note: actual number may be less if duplexes are not constructed on each lot)	\$13,500
Total Drainage Structure Present Value Replacement Costs	\$24,700

Centennial Lane Short Plat SP-1359-04

Sinking Fund Reserve Account Calculations for Operation & Maintenance Costs Plus Replacement Costs

Annual operation and maintenance costs, O & M	\$1,925
Present value of stormwater treatment and disposal system structures, PV	\$24,700
Assume 50% replacement of structures in 20 years, PV/2	\$12,350
Future value of structures to replace in 20 years, FV assume inflation rate $r = 4\%$, period $n = 20$ $FV = (PV/2) * (1+r)^n = (PV/2 * 2.1911)$	\$27,060
Annual set-aside for future replacement of pipes, A assume investment interest rate $r = 6\%$, $n = 20$ years $A = FV/[((1+r)^n - 1)/r] = FV/36.79$	\$736
Total charges per year (O & M + A) for 32 lots, annual charge per lot = cost + set-aside amount A (O & M + A) / 9	\$296

MEMO

To: Greg Baldwin, Transportation
From: Marianne Barrentine, Environmental Programs
RE: Butler Properties, Preliminary Short Plat, SP-1359-04

Date: January 12, 2005

I have reviewed the SP-1359-04 drawing for floodplain impacts to the proposed lots. There are designated floodplain areas along the west and south boundaries of this plat. Based on the topo and floodplain elevations shown all of the proposed lots are buildable. I talked to Jon Galow at TDH regarding basis of preliminary elevations shown on the drawing [The floodplains are designated by FEMA as unnumbered A zones and no study was done or elevations provided]. He said they we're based on a conservative estimate of flows (USGS regression + max. std error) and simple HEC-RAS calculations. The impact of Upriver Dr and its culvert was not taken into account nor was the downstream junction of the two floodplain drainages. However, for the purposed of this preliminary plat, the elevations should be a good estimate.

During the preparation of the final plat the following will need to be addressed:

1. The detailed floodplain analysis will need to be submitted to determine the base flood elevations along the west and south boundaries. The study must meet the requirements of the Spokane County Floodplain ordinance and the Spokane County Stormwater guidelines. Floodplain Boundaries and base flood elevations shall be shown on the final plat.
2. Lowest floor including basement will need to be one foot above the adjacent base flood elevation. This elevation shall be indicated on the individual lots of the final plat.
3. There will need to be a condition on the final plat that development shall meet the requirement of FEMA and the Spokane County Floodplain Development ordinance.
4. Development of the plat shall not change the entry or exit of floodplain flows from the property nor will any increases in base flood elevation on adjacent or upstream properties be allowed with out property owner permission.
5. Discharge of stormwater to the floodplain during a 100-year event is limited to existing peak flow and volume.
6. There is a legal decision involved with the ditch stormwater flow and floodplain near Upriver Dr. Please coordinate with preparation of the floodplain analysis and insure any requirements are included in the final plans. Information is on file with Spokane County.

Any questions on these floodplain issues can be directed to me at 477-7443.

Centennial Lane Short Plat SP-1359-04

Sinking Fund Reserve Account Calculations for Operation & Maintenance Costs Plus Replacement Costs

Annual operation and maintenance costs, O & M	\$1,925
Present value of stormwater treatment and disposal system structures, PV	\$24,700
Assume 50% replacement of structures in 20 years, PV/2	\$12,350
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Annual set-aside for future replacement of pipes, A assume investment interest rate $r = 6\%$, $n = 20$ years $A = FV/[((1+r)^n - 1)/r] = FV/36.79$	\$736
Total charges per year (O & M + A) for 32 lots, annual charge per lot = cost + set-aside amount A (O & M + A) / 9	\$296

$$1,925 + 736 = 2,661$$

$$2,661 \div 18 \text{ lots} = 147.83 \text{ ea. annual}$$



LETTER OF TRANSMITTAL

TO : Tim Schwab
Spokane County Engineering
1026 W. Broadway
Spokane WA 99260

DATE : September 18, 2006
JOB : Centennial Lane Short Plat SP1359-04

We are sending you Attached Under separate cover via _____ the following items:
 Shop Drawings Disks Plans Samples
 Copy of Letter Change Order Specifications Other, see below

COPIES	DATE	DESCRIPTION
1	9/18/2006	Submittal checklist
1	9/14/2006	Street, Drainage, and Erosion Control plans
1	9/12/2006	Lot plans
1	9/12/2006	revised Drainage Report (w/ Geotechnical report included in appendix)
1	9/18/2006	Request for Design Deviation
1	n/a	Intersection Sight Distance Calculations/Drawings

These are transmitted as checked below:

- For approval No exception taken Resubmit ___ copies for approval
- For your use Make corrections noted Submit ___ copies for distribution
- As requested For review and comment Return ___ corrected prints
-
- For Bids Due _____, 20____ Prints Returned After Loan To Us

REMARKS: _____

Cc: S06-005(2)
Mike Butler

THOMAS DEAN & HOSKINS, INC.
 Signed: Jonathan Galow
 Jonathan Galow, P.E.

Submittal Checklist – Submittal #2 for Road & Drainage Projects in Spokane County - Plats/Short Plats

This form needs to be included with each plan submittal to the Spokane County Engineer's Office.

Project Name: Centennial Lane

Spokane County Project No.: SP-1359-04

Date: September 18, 2006

Project Engineer: Jonathan Galow

Phone: 622-2888

Project Applicant: Mike Butler

Phone: 838-2789

A. Preliminary Process

Prior to submittal of road and drainage plans, the following events are to have already occurred:

- ✓ An "Agreement to Pay Fees" has been submitted.
- ✓ At least one Pre-Design Meeting has been held with County staff at the Engineer's Office.

B. Road and Drainage Plan Submittal

The items listed below need to be provided as a minimum with each road and drainage plan submittal.

			Item Description
✓ Yes			Road and drainage plans, one set.
✓ Yes			Each plan sheet of record is signed and dated by the project applicant.
✓ Yes			Drainage report, one copy.
✓ Yes			The plans, drainage report, basin maps, and any other calculations are stamped, signed and dated by an engineer licensed in Washington.
<input type="checkbox"/> Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Inspection agreement between the project applicant and its engineer.
✓ Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Geotechnical report, one copy (Include all soil test pit/boring logs).
✓ Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Structural pavement calculations, one set.
<input type="checkbox"/> Yes	<input type="checkbox"/> Prev	✓ N/A	Cross-slope grade calculations – for road widening projects.
<input type="checkbox"/> Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Fire district approval for private roads.
✓ Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Lot Plans (required for every lot with drainage easements).
<input type="checkbox"/> Yes	<input type="checkbox"/> Prev	✓ N/A	Any applicable State and Federal permits were obtained (i.e. HPA, JARPA, etc.) and a copy of the conditions is included in the plan submittal.
✓ Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Maintenance manual and sinking fund calculations for privately maintained facilities.
<input type="checkbox"/> Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	A draft copy of the Homeowner's Association CC&R's.
<input type="checkbox"/> Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Draft easement document for any easements.
✓ Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Erosion Control Plan to be included with each road & drainage plan submittal.
✓ Yes	<input type="checkbox"/> Prev	<input type="checkbox"/> N/A	Sight distance analysis.

*Prev = Previously accepted by the County Engineer

REQUEST FOR DESIGN DEVIATION

\$30.00

DATE _____

ROAD NAME Centennial Lane CRP/RID # _____

NAME OF PLAT SP 1359-04 Plat # _____

ADDRESS OF BLDG _____

NAME OF BLDG PROJECT _____ BLDG# B _____ S _____ T _____ R _____

FEDERAL/STATE PROJECT # _____ PROJECT LIMITS _____

EXISTING CONDITIONS:

PROPOSED IMPROVEMENTS:

ROAD WIDTH _____

ROAD SURFACE _____

AVG. DAILY TRAFFIC _____

Current Traffic Count

Design Year Traffic Count

PROJECT DESCRIPTION Construct road and drainage system for 9 lot short plat connecting to Veriver Drive between Elton Road and Dick Road.

PROPOSED DESIGN DEVIATION Allow Centennial Lane intersection to be 150' from Elton Road and 150' from Dick Road. Required spacing is 300'.

JUSTIFICATION:

The only way to access the 9 lots is by 3 driveways or one private road intersection. County Engineering instructed the developer to plat the property with a single private road rather than with driveways.

SUBMITTED BY Thomas, Dean & Hoskins, Inc DATE 09/18/2006
ADDRESS 303 E 2nd Ave, Spokane WA ZIP CODE 99202
PHONE # (509) 622-2888

***** ADMINISTRATIVE VARIANCE FEE OF \$30.00 PAID TO SPOKANE COUNTY *****
1026 W BROADWAY, SPOKANE WA 99260-0170 PHONE (509)477-3600 FAX (509)477-7655
-REQUEST WILL NOT BE REVIEWED WITHOUT FUNDS-

DATE / / RECEIVED BY _____ CASH _____ CHECK # _____ Receipt # _____

EXHIBIT A

LEGAL DESCRIPTION:

A PARCEL OF LAND, BEING A PORTION OF TRACT 135, PLAT NO. 2 OF PASADENA PARK, AS SHOWN ON SAID PLAT FILED IN BOOK "S" OF PLATS, AT PAGE 25, RECORDS OF SPOKANE COUNTY, LOCATED IN THE NORTHWEST QUARTER, SECTION 6, TOWNSHIP 25 NORTH, RANGE 44 EAST, WILLAMETTE MERIDIAN, SPOKANE COUNTY, WASHINGTON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE EAST 205 FEET OF THE SAID TRACT 135; THENCE, SOUTH 74°44'00" WEST ALONG THE NORTHERLY LINE, SAID TRACT 135, A DISTANCE OF 155.45 FEET TO THE TRUE POINT OF BEGINNING FOR THIS DESCRIPTION, THENCE, SOUTH 15°15'31" EAST, LEAVING SAID NORTHERLY LINE, A DISTANCE OF 78.40 FEET; THENCE, SOUTH 78°12'29" EAST A DISTANCE OF 132.62 FEET TO A POINT ON THE WEST LINE OF THE EAST 205 FEET OF SAID TRACT 135; THENCE, SOUTH 00°11'42" EAST ALONG SAID WEST LINE A DISTANCE OF 294.98 FEET TO A POINT ON THE SOUTHERLY LINE, SAID TRACT 135; THENCE, SOUTH 73°17'24" WEST ALONG SAID SOUTHERLY LINE A DISTANCE OF 513.20 FEET TO THE SOUTHWESTERLY CORNER, SAID TRACT 135; THENCE, NORTH 21°01'06" EAST ALONG THE WESTERLY LINE THEREOF A DISTANCE OF 267.00 FEET TO AN ANGLE POINT THEREOF; THENCE, NORTH 42°10'06" EAST, CONTINUING ALONG SAID WESTERLY LINE, A DISTANCE OF 198.40 FEET TO AN ANGLE POINT THEREOF; THENCE, NORTH 36°11'54" WEST, CONTINUING ALONG SAID WESTERLY LINE, A DISTANCE OF 122.56 FEET TO THE NORTHWESTERLY CORNER, SAID TRACT 135; THENCE, NORTH 74°44'00" EAST ALONG THE NORTHERLY LINE THEREOF A DISTANCE OF 190.21 FEET TO THE TRUE POINT OF BEGINNING.

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